

**The 18<sup>th</sup> International Conference on  
Engineering of Modern Electric Systems Oradea,  
Romania,**

**29 - 30 May 2025**

**PROGRAM**

<b>Thursday, May 29, 2025</b>	<b><u>All conference sessions will take place at Bihor Science and Technology Park and online</u></b>
11:00 – 12:00	Registration - Lobby of Bihor Science and Technology Park
12:00 – 13:00	Opening session - welcome speech – The main amphitheater Tour of Bihor Science and Technology Park
13:00 – 14:00	Lunch – Room 001 - Bihor Science and Technology Park
14:00	Oral Sessions
20:00	Gala Dinner at Astoria Restaurant, King Ferdinand Square (Piața Regele Ferdinand)
<b>Friday, May 30, 2025</b>	<b><u>online only</u></b>
9:00	Oral Sessions

**Session Electrical Engineering**

**Chair: Livia Bandici**

**Thursday, May 29, 2025 – Room 201 (second floor) and online**

<b>ID</b>	<b>Schedule</b>	<b>Authors</b>	<b>Paper title</b>
21	14:00 in person	Loránd Szabó, <i>Technical University of Cluj-Napoca, Romania</i> Diana Artudean, <i>Technical University of Cluj-Napoca, Romania</i> Paula-Alexandra Jula, <i>Technical University of Cluj-Napoca, Romania</i>	Unlocking Critical Materials for Sustainable Electric Technologies through Deep-Sea Mining
29	14:20 in person	Norbert Kertész, <i>Technical University of Cluj-Napoca, Romania</i> Dan-Cristian Popa, <i>Technical University of Cluj-Napoca, Romania</i> Loránd Szabó, <i>Technical University of Cluj-Napoca, Romania</i>	An FPGA-Driven Compact Battery Management System for Real-Time Monitoring in Logistics Applications
62	14:40 in person	Andreas Michaelides, <i>University of Nicosia, Cyprus</i> Martina Hanna, <i>University of Nicosia, Cyprus</i> Thanos Nicolaou, <i>University of Nicosia, Cyprus</i>	Wireless Power Transfer System 1kW via Inductive Link enhanced by Iron Core
85	15:00 in person	Daniel Rotaru, <i>University of Oradea, Romania</i> Livia Bandici, <i>University of Oradea, Romania</i> Carmen Otilia Molnar, <i>University of Oradea, Romania</i>	The Use of Electromagnetic Levitation in the Material Melting Process
69	15:20 online	George-Andrei Marin, <i>Dunarea de Jos University of Galati, Romania</i> Marian Gaiceanu, <i>Dunarea de Jos University of Galati, Romania</i>	Improving Power Quality Through The Use Of Synchronous Machines: A Case Study

**15:40 – 16:00 Coffe break**

9	16:00 online	Mehmet Kaya, <i>Kocaeli University, Turkiye</i> Mustafa Çelik, <i>Kocaeli University, Turkiye</i> Korhan Karaarslan, <i>Kocaeli University, Turkiye</i> E. Mustafa Yeğin, <i>Kocaeli University, Turkiye</i>	Investigation of Voltage Stability at Different Grid Short-Circuit Powers in case of Electrical Faults
34	16:20 online	Omar Muhammed Neda, <i>Sunni Diwan Endowment, Iraq</i>	Robust Coordination Design of PSS and UPFC-POD Controller for Damping Oscillations Based on PSO and DEO Techniques
64	16:40 online	Alexandra-Ioana Mosoia, <i>Military Technical Academy "Ferdinand I", Romania</i> Adrian Focsa, <i>Military Technical Academy "Ferdinand I", Romania</i>	A Novel Approach for Translational Motion Blur Estimation Based on Radon Transform
70	17:00 online	Ahmed Haidar, <i>Universiti Malaysia Sarawak, Malaysia</i> Andreas Helwig, <i>University of Southern Queensland, Australia</i> Liviu Moldovan, <i>University of Oradea, Romania</i>	An Optimized Load Shedding Approach in Power Grids to Mitigate Cascading Failure
86	17:20 in person	Gyula Fehér, <i>University of Oradea, Romania</i> Livia Bandici, <i>University of Oradea, Romania</i>	Aspects on the Use of Microwaves in the Process of Obtaining Nanopowders
87	17:40 in person	Daiana Ioana Rus, <i>University of Oradea, Romania</i> Tudor George Muțiu, <i>University of Oradea, Romania</i> Francisc Ioan Hathazi, <i>University of Oradea, Romania</i> Carmen Otilia Molnar, <i>University of Oradea, Romania</i> Mircea Nicolae Arion, <i>University of Oradea, Romania</i>	About the Process of High-Frequency Pyrolysis of Printed Stationery Waste Paper at Low Temperature

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88	18:00 in person	Daiana Ioana Rus, <i>University of Oradea, Romania</i> Adrian Szoke, <i>University of Oradea, Romania</i> Francisc Ioan Hathazi, <i>University of Oradea, Romania</i> Mircea Nicolae Arion, <i>University of Oradea, Romania</i> Vasile Darie Soproni, <i>University of Oradea, Romania</i>	Microwave-Assisted Pyrolysis of Inked Waste Paper for Bio-Oil Extraction
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*Session Electronics and Telecommunications*  
*Chair: Ioan Buciu*

**Thursday, May 29, 2025 – Room 204 (second floor) and online**

<b>ID</b>	<b>Schedule</b>	<b>Authors</b>	<b>Paper title</b>
48	14:00 in person	David C. Marcu, <i>University of Oradea, Romania</i> Cristian Grava, <i>University of Oradea, Romania</i> Corina Cinezan, <i>University of Oradea, Romania</i> Camelia Bianca Rus, <i>University of Oradea, Romania</i>	From Tabular Data to Images for AI Detection of in-Hospital Mortality for Patients with Myocardial Infarction
07	14:20 in person	Lorena Telembici, <i>Technical University of Cluj-Napoca, Romania</i> Corneliu Rusu, <i>Technical University of Cluj-Napoca, Romania</i>	Optimizing Audio Recognition for Assistive Robotics with Feature Optimization, Machine Learning and Data Augmentation
17	14:40 in person	Mihai Ivanovici, <i>Transilvania University of Brasov, Romania</i> Ioana Plajer, <i>Transilvania University of Brasov, Romania</i> Ștefan Popa, <i>Transilvania University of Brasov, Romania</i> Corneliu Florea, <i>Transilvania University of Brasov, Romania</i> Andrei Racovițeanu, <i>Transilvania University of Brasov, Romania</i>	Path Reconstruction from Video Sequences using Nadiral View and Optical Flow
27	15:00 in person	Ornella Nobili, <i>Transilvania University of Brasov, Romania</i> Radu-Mihai Coliban, <i>Transilvania University of Brasov, Romania</i> Mihai Ivanovici, <i>Transilvania University of Brasov, Romania</i>	Hyperspectral Imaging for Degraded Positive Film Digitization and Color Correction

16	15:20 in person	Andrei Bertescu, <i>Transilvania University of Brasov, Romania</i> Ștefan Popa, <i>Transilvania University of Brasov, Romania</i>	The Design and Implementation of an FPGA-based Cosmic Radiation Sensor PCB
<b>15:40 – 16:00 Coffe break</b>			
37	16:00 in person	Ana-Maria-Andreea Căiniceanu, <i>Politehnica University of Timișoara, Romania</i> Florin Alexa, <i>Politehnica University of Timișoara, Romania</i>	Application of Color Theory in Graphic Design
39	16:20 in person	Ioana-Adriana Manea, <i>Politehnica University of Timișoara, Romania</i> Mădălina-Iasmina Coșnița, <i>Politehnica University of Timișoara, Romania</i> Cristina-Maria Andraș, <i>Politehnica University of Timișoara, Romania</i> Florin Alexa, <i>Politehnica University of Timișoara, Romania</i>	MIMO Systems in 5G: a Review
73	16:40 in person	Radu Mihai Diaconu, <i>Politehnica University Timișoara, Romania</i> Teodor Petrița, <i>Politehnica University Timișoara, Romania</i>	Using off-the-Shelf Sound Card for Drone Detection and Localization in Close Range
05	17:00 in person	Theodosios-Konstantinos Fyntanidis, <i>University of West Attica, Greece</i> Theodoros Gkanetsos, <i>University of West Attica, Greece</i>	Design, Programming, and Construction of an Unmanned Surface Vehicle for Underwater Mine Detection
66	17:20 in person	Gábor-Dániel Kovács, <i>University of Oradea, Romania</i> András-István Kapy, <i>University of Oradea, Romania</i> Bogdan Sebeșan, <i>University of Oradea, Romania</i>	Innovative Approaches in Exoskeleton Robotics: Design, Control and Performance Evaluation

53	17:40 in person	Daniel Popa, <i>University of Oradea, Romania</i> Ioan Buciu, <i>University of Oradea, Romania</i>	Methods for Monitoring and Controlling IoT Devices with Laravel
43	18:00 online	Alyssa Palmer, <i>Abu Dhabi University, UAE</i> Maitha Shams, <i>Abu Dhabi University, UAE</i> Chahinez Trichine, <i>Abu Dhabi University, UAE</i> Huma Zia, <i>Abu Dhabi University, UAE</i>	Towards Secure and Scalable Industrial IoT: Implementing a MQTT-Based Monitoring and Alert
44	18:20 online	Alyssa Palmer, <i>Abu Dhabi University, UAE</i> Maitha Shams, <i>Abu Dhabi University, UAE</i> Huma Zia, <i>Abu Dhabi University, UAE</i>	Side-Channel Attacks on IoT: Risks and Mitigation in Embedded Systems
76	18:40 online	Bogdan Sebeşan, <i>University of Oradea, Romania</i> Gábor-Dániel Kovács, <i>University of Oradea, Romania</i> Cristian Grava, <i>University of Oradea, Romania</i>	Considerations about using Large Language Models to enhance the prediction of pedestrian trajectories
92	19:00 in person	Ovidiu Marius Neamtu, <i>University of Oradea, Romania</i>	An Approximation of the Time Limit Lead-Acid Battery for an Isolated House
91	19:20 in person	Marin - Titus Tomse, <i>University of Oradea, Romania</i> Lavinia Tepelea, <i>University of Oradea, Romania</i> Ioan Gavrilut, <i>University of Oradea, Romania</i>	Using Virtual Instrumentation for the Study of DC-DC Converters
89	19:40 in person	Răzvan-Daniel Albu, <i>University of Oradea, Romania</i> Florin Lucian Mogoş, <i>University of Oradea, Romania</i>	AI-Assisted Low-Code Platforms In Modern Research

*Session Computer Science and Control Systems, series 1*  
*Chair: Doina Zmaranda*

**Thursday, May 29, 2025 – Room 203 (second floor) and online**

<b>ID</b>	<b>Schedule</b>	<b>Authors</b>	<b>Paper title</b>
38	14:00 in person	Mihaela Meze, <i>University of Oradea, Romania</i> Octavia-Maria Bolojan, <i>University of Oradea, Romania</i> Felicia Mirabela Costea, <i>University of Oradea, Romania</i>	Comparison of Machine Learning Algorithms Used for Detecting XSS Attacks
41	14:20 in person	Szabolcs Szilágyi, <i>Partium Christian University, Romania</i>	Weighted Scheduling in Multipath GRE-in-UDP: Mathematical Modeling and Experimental Analysis
77	14:40 in person	Ana-Maria Peterelcean, <i>Polytechnic University Timisoara, Romania</i> Teodor Petrita, <i>Polytechnic University Timisoara, Romania</i>	An efficient VPN solution for a geographically distributed sensor network
26	15:00 in person	Andrei Borze, <i>University of Oradea, Romania</i> Otto Poszet, <i>University of Oradea, Romania</i> Adriana-Maria Cuc, <i>University of Oradea, Romania</i> Stefan Vari-Kakas, <i>University of Oradea, Romania</i>	Comparative Study Between React and Svelte: Performance and Usability
51	15:20 in person	Hannelore Sebestyen, <i>Polytechnic University Timisoara, Romania</i> Daniela-Elena Popescu, <i>University of Oradea, Romania</i>	A Smart On-Street Parking Framework
<b>15:40 – 16:00 Coffe break</b>			
71	16:00 in person	Luciana Majercsik, <i>Transilvania University of Brasov, Romania</i> Alexandra Băicoianu, <i>Transilvania University of Brasov, Romania</i> Ioana Cristina Plajer, <i>Transilvania University of Brasov, Romania</i>	Crop-Specific Effects of Data Augmentation on Classification Accuracy in Sentinel-2 Imagery

42	16:20 in person	Artur Kazak, <i>Transilvania University of Brasov, Romania</i> Vladimir Mirovski, <i>Technical University of Moldova, Republic of Moldova</i> Mihai Ivanovici, <i>Transilvania University of Brasov, Romania</i>	Random Data Sampling for an Agricultural Crop Classification Task
52	16:40 in person	Diana Laura Silaghi, <i>Politehnica University of Timisoara, Romania</i>	Blockchain-based Solution for Protecting Teachers' Copyrights on Educational Resources
72	17:00 in person	Laura Juhász, <i>University of Debrecen, Hungary</i>	Comparison of Cloud solutions for integrating analytics tools with legacy systems in SMEs
32	17:20 in person	Mircea-Petru Ursu, <i>University of Oradea, Romania</i>	Digital Decoder from 4-Bit Binary Code to 7-Segment LED Display
19	17:40 in person	Adelin Gruian, <i>University of Oradea, Romania</i> Cornelia Aurora Györödi, <i>University of Oradea, Romania</i> Robert Ștefan Györödi, <i>University of Oradea, Romania</i>	Empowering Non-Technical Users: A Chatbot-Driven Approach to Database Management
30	18:00 in person	Andrei Țigan, <i>University of Oradea, Romania</i> Elisa Valentina Moisi, <i>University of Oradea, Romania</i> Simina Maria Coman, <i>University of Oradea, Romania</i>	Comparison of Machine Learning Algorithms Used for Phishing Detection

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83	18:20 in person	Ovidiu-Constantin Novac, <i>University of Oradea, Romania</i> Cornelia-Mihaela Novac, <i>University of Oradea, Romania</i> Mihai Costar, <i>University of Oradea, Romania</i> Mihai Oproescu, <i>National University of Science and Technology Politehnica Bucharest, Romania</i> Mircea-Petru Ursu, <i>University of Oradea, Romania</i> Gyongyi Bujdoso, <i>University of Debrecen, Hungary</i>	Comparison of Frontend Frameworks Angular vs. Blazor
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**Friday, May 30, 2025 – online only**

<b>ID</b>	<b>Schedule</b>	<b>Authors</b>	<b>Paper title</b>
13	09:00 online	Komlosi Bogdan-Flavius, <i>University Politehnica Timișoara, Romania</i> Bonciog Dumitru-Daniel, <i>University Politehnica Timișoara, Romania</i> Maranescu Valentin-Ioan, <i>University Politehnica Timișoara, Romania</i>	Improvements in Hi-Fi Class AB Amplifier Design
15	09:20 online	Nesil Bor, <i>BITES Defense and Aerospace, Türkiye</i> Nergis Pervan Akman, <i>BITES Defense and Aerospace, Türkiye</i> Ali Berkol, <i>BITES Defense and Aerospace, Türkiye</i>	Enhancing Autonomous Systems with Deep Learning-Based Object and Aerodrome Detection

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23	09:40 online	I Dewa Made Bayu Atmaja Darmawan, <i>Udayana University, Indonesia</i> Linawati, <i>Udayana University, Indonesia</i> Gede Sukadarmika, <i>Udayana University, Indonesia</i> Ni Made Ary Esta Dewi Wirastuti, <i>Udayana University, Indonesia</i> Reza Pulungan, <i>Udayana University, Indonesia</i> Dewa Putu Yudhi Ardiana, <i>Udayana University, Indonesia</i>	Exploring a Human-in-the-Loop Framework for Adaptive Sign Language Translation in Deaf Education
24	10:00 online	Iulian Vlascu, <i>Transilvania University of Brasov, Romania</i> Alexandra Băicoianu, <i>Transilvania University of Brasov, Romania</i>	CNN-Based Violence Detection: Evaluation and Experiments
67	10:20 online	Catalin-Daniel Morar, <i>Politehnica University of Timișoara, Romania</i> Daniela Elena Popescu, <i>University of Oradea, Romania</i> Ovidiu Constantin Novac, <i>University of Oradea, Romania</i>	Understanding Blockchain Governance: Key Models and Issues
55	10:40 online	Amna Mahmood, <i>NUST-SEECS, Pakistan</i> Momina Munir, <i>NUST-SEECS, Pakistan</i> Sohail Iqbal, <i>NUST-SEECS, Pakistan</i>	Adaptive A* RRT* for Robot Navigation in Maze
58	11:00 online	Khuram Shahzad, <i>NUST-SEECS, Pakistan</i> Sohail Iqbal, <i>NUST-SEECS, Pakistan</i>	Comparative Analysis of ChatGPT, DeepSeek, and Gemini for Automated Code Generation

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*Session Computer Science and Control Systems, series 2*

*Chair: Helga Silaghi*

**Thursday, May 29, 2025 – Room 202 (second floor) and online**

<b>ID</b>	<b>Schedule</b>	<b>Authors</b>	<b>Paper title</b>
25	14:00 in person	Viorica Spoiala, <i>University of Oradea, Romania</i>	Data Acquisition from Microcontrollers and Their Publication Through AWS-IoT
4	14:20 in person	Claudiu Raul Costea, <i>University of Oradea, Romania</i> Helga Silaghi, <i>University of Oradea, Romania</i> Zoltan Kovendi, <i>University of Oradea, Romania</i> Marius Romocea, <i>University of Oradea, Romania</i>	Industrial Processes Modeled with Petri Nets
90	14:40 in person	Mihaela Popa, <i>Petroleum – Gas University of Ploiesti, Romania</i> Daniel Alexuta, <i>Petroleum – Gas University of Ploiesti, Romania</i> Marius Mircea Balas, <i>Aurel Vlaicu University of Arad, Romania</i> Valentina Emilia Balas, <i>Aurel Vlaicu University of Arad, Romania</i>	Current Trends in Research on Temperature Control in Rooftop Greenhouses
60	15:00 in person	Anca-Adriana Petcut-Lasc, <i>Petroleum – Gas University of Ploiesti, Romania</i> Valentina Emilia Balas, <i>Aurel Vlaicu University of Arad, Romania</i> Flavius Maxim Petcut, <i>Aurel Vlaicu University of Arad, Romania</i>	A Survey of MPPT Techniques Under Partial Shading Conditions: Evaluating the Firefly Algorithm's Performance
84	15:20 in person	Flavius Maxim Petcut, <i>Aurel Vlaicu University of Arad, Romania</i>	Comparative Analysis of Single-Diode and TwoDiode Models of Photovoltaic Panels
<b>15:40 – 16:00 Coffee break</b>			

	16:00 in person	Eveline Mihok-Ecsedi, <i>Technical University of Cluj-Napoca, Romania</i> Eduard Mihok-Ecsedi, <i>Freelancer</i> Laura Coroiu, <i>University of Oradea, Romania</i> Liliana Măgdoiu, <i>University of Oradea, Romania</i> Eugen Gergely, <i>University of Oradea, Romania</i> Mihai Abrudean, <i>Technical University of Cluj-Napoca, Romania</i>	Design of a High Performance Automatic Test Needle Receptacles Insertion Machine for Printed Circuit Board Assemblies Test Fixtures
28	16:20 online	Irem Karaagac, <i>Gazi University, Turkey</i> Nisanur Uc, <i>Gazi University, Turkey</i> Fatih Ozdemir, <i>Gazi University, Turkey</i> Enise Feyza Kuzoluk, <i>Gazi University, Turkey</i> Haluk Gozde, <i>Turkish Aerospace Industries, Turkey</i> Hidir Duzkaya, <i>Gazi University, Turkey</i>	Generic Requirements Analysis of RAM-Air Turbine Power Supply for An Aircraft Pod
50	16:40 online	Ciprian Bejenar, <i>"Ștefan cel Mare" University of Suceava, Romania</i> Mihai Rață <i>"Ștefan cel Mare" University of Suceava, Romania</i> Vasile-Eusebiu Toader, <i>"Ștefan cel Mare" University of Suceava, Romania</i>	Conventional Approach on Modeling Symmetric PWM Command for HSFBS Topology with MATLAB & Simulink and dSPACE
57	17:00 online	Niki Peponi, <i>University of West Attica, Greece</i> Ioannis Antonopoulos, <i>University of West Attica, Greece</i> Theodore Ganetsos, <i>University of West Attica, Greece</i>	Sensor-Based Safety Design and Management of Smart Containers with Flammable Materials on Commercial Ships Using LabVIEW for Emergency Reporting

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31	17:20 online	Roxana-Maria Motorga, <i>Technical University of Cluj-Napoca, Romania</i> Mihail Abrudean, <i>Technical University of Cluj-Napoca, Romania</i> Daniel Moga, <i>Technical University of Cluj-Napoca, Romania</i> Vlad Muresan, <i>Technical University of Cluj-Napoca, Romania</i> Mihaela-Ligia Unguresan, <i>Technical University of Cluj-Napoca, Romania</i>	A Comparative Study of Controllers for Robust Disturbance Rejection In Hyperbaric Surgical Chambers
47	17:40 in person	Adrian Codoban, <i>University of Oradea, Romania</i> Viorica Spoiala, <i>University of Oradea, Romania</i>	Method and Device for Active Acoustic Noise Cancellation Processes
80	18:00 in person	Diana Monica Mesaros, <i>University of Oradea, Romania</i>	HACCP in Software Engineering using Task Management
36	18:20 in person	Dragoş Cristian Spoiala, <i>University of Oradea, Romania</i> Tiberiu Barabas, <i>University of Oradea, Romania</i> Teofil Ovidiu Gal, <i>University of Oradea, Romania</i>	Techniques for Creating and Querying Relational Databases Using MySQL and AWS Cloud Services

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